

Appln. No. 10/719,239
Amendment dated June 13, 2006
Reply to Office Action mailed April 3, 2006

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims (deleted text being struck through and added text being underlined):

1. (Currently Amended) A metal working machine comprising:
a frame adapted for resting upon a horizontal support surface, said frame including at least two vertical stanchions and a horizontal support member extending between said vertical stanchions, said horizontal support member being positioned adjacent to a top end of said vertical stanchions;
an arm member pivotally coupled to said frame, said arm member having a first end and a second end, said arm member being pivotally coupled to said frame at a pivot location between said first and second ends;
a hydraulic cylinder having a piston selectively extendable from said hydraulic cylinder, said hydraulic cylinder being operationally coupled to said frame, said piston being operationally coupled to said arm member toward said first end in a manner such that extension of said piston from said hydraulic cylinder pivotally moves said first end of said arm member away from said frame and moves said second end of said arm member toward said frame;
wherein a first portion of said arm member is located between said pivot location and said first end and a second portion of said arm member is located between said pivot location and said second end;
a shear blade mounted on the first portion of said arm member for shearing materials against said horizontal support member when said piston is retracted into said hydraulic cylinder;
a punch assembly mounted on the second portion of said arm member and a punch mating assembly mounted on said frame member, said punch mating assembly being aligned with said punch assembly such that said punch assembly engages said punch mating assembly when said first end of said arm member is moved away from said frame by said piston;

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a second horizontal support member mounted on and extending between said two vertical stanchions for supporting the piece of metal being worked;

a ram member mounted on the first portion of said arm member and extending downwardly from said arm member toward said second horizontal support member for transferring a force from said arm member to a workpiece positioned on said second support member;

means for adjusting a height of said second horizontal support member to adjust a distance between said second horizontal support member and said arm member.

2. (Original) The machine of claim 1, further comprising a hydraulic reservoir operationally coupled to said hydraulic cylinder for providing additional hydraulic force.

3. (Cancelled)

4. (Previously presented) The machine of claim 1, wherein a length of said first portion of said arm member is longer than a length of said second portion of said arm member.

5. (Currently Amended) ~~The~~ A metal working machine of claim 1, further comprising:

a frame adapted for resting upon a horizontal support surface, said frame including at least two vertical stanchions and a horizontal support member extending between said vertical stanchions, said horizontal support member being positioned adjacent to a top end of said vertical stanchions;

an arm member pivotally coupled to said frame, said arm member having a first end and a second end, said arm member being pivotally coupled to said frame at a pivot location between said first and second ends;

a hydraulic cylinder having a piston selectively extendable from said hydraulic cylinder, said hydraulic cylinder being operationally coupled to

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said frame, said piston being operationally coupled to said arm member toward said first end in a manner such that extension of said piston from said hydraulic cylinder pivotally moves said first end of said arm member away from said frame and moves said second end of said arm member toward said frame;

wherein a first portion of said arm member is located between said pivot location and said first end and a second portion of said arm member is located between said pivot location and said second end;

a shear blade mounted on the first portion of said arm member for shearing materials against said horizontal support member when said piston is retracted into said hydraulic cylinder;

a punch assembly mounted on the second portion of said arm member and a punch mating assembly mounted on said frame member, said punch mating assembly being aligned with said punch assembly such that said punch assembly engages said punch mating assembly when said first end of said arm member is moved away from said frame by said piston;

a second horizontal support member mounted on and extending between said two vertical stanchions for supporting the piece of metal being worked;

a ram member mounted on the first portion of said arm member and extending downwardly from said arm member toward said second horizontal support member for transferring a force from said arm member to a workpiece positioned on said second support member;

a hydraulic reservoir operationally coupled to said hydraulic cylinder for providing additional hydraulic force;

a control assembly operationally coupled to said hydraulic cylinder for selectively actuating said hydraulic cylinder whereby said piston is extended; and

means for adjusting a height of said second horizontal support member to adjust a distance between said second horizontal support member and said arm member; and

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wherein a length of said first portion of said arm member is approximately three times a length of said second portion of said arm member.

6. (Cancelled)

7. (Currently Amended) The machine of claim [[[6]]] 1, wherein said punch assembly engages said punch mating assembly with eighty tons of force.

8. (Currently Amended) The machine of claim 5, further comprising:

said arm member having a pivot portion pivotally coupled to said frame member, said arm member having a first extent extending outwardly from said pivot portion, said first extent terminating at said first end;

said arm member having a second extent extending outwardly from said pivot portion opposite said first extent, said second extent ending at said second end;

said first extent being substantially longer than said second extent to improve leverage of said piston member for applying downwardly directed force at said second end.

9. (Original) The machine of claim 8, wherein said first extent having a length at least three times as long as a length of said second extent.

10. through 11. (Cancelled)

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12. (Currently Amended) The machine of claim [[[10]]] 5, further comprising:

a first plurality of apertures extending through a first one of said two vertical stanchions, said first plurality being dispersed in a linear array;

a second plurality of apertures extending through a second one of said two vertical stanchions, said second plurality being dispersed in a linear array;

a pair of coupling members for operationally coupled said second horizontal support member to said two vertical stanchions, said pair of coupling members being positionable through a selected pairing of said one of said first plurality of apertures and one of said second plurality of apertures whereby a height between said ram member a said second horizontal support is adjustable.

13. (Cancelled)

14. (Currently Amended) The machine of claim 5, further comprising:

said arm member having a pivot portion pivotally coupled to said frame member, said arm member having a first extent extending outwardly from said pivot portion, said first extent terminating at said first end;

said arm member having a second extent extending outwardly from said pivot portion opposite said first extent, said second extent ending at said second end;

said first extent being substantially longer than said second extent to improve leverage of said piston member for applying downwardly directed force at said second end;

said first extent having a length at least three times as long as a length of said second extent;

~~a ram member operationally coupled to said arm member, said ram member extending downwardly from said arm member, said ram member~~

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~~being for transferring a force from said arm member to a piece of metal being worked;~~

~~a second horizontal support member operationally coupled between said two vertical stanchions, said second horizontal support member being positionable below said horizontal support member for supporting the piece of metal being worked;~~

said ram member being positioned at a medial portion of said first extent of said arm member;

a first plurality of apertures extending through a first one of said two vertical stanchions, said first plurality being dispersed in a linear array;

a second plurality of apertures extending through a second one of said two vertical stanchions, said second plurality being dispersed in a linear array;

a pair of coupling members for operationally coupled said second horizontal support member to said two vertical stanchions, said pair of coupling members being positionable through a selected pairing of said one of said first plurality of apertures and one of said second plurality of apertures whereby a height between said ram member a said second horizontal support is adjustable; and

wherein said ram member develops fifty tons of force.

15. (Cancelled)

16. (Previously presented) The machine of claim 1, wherein said first portion of said arm has a length at least three times as long as a length of said second portion of said arm member.

17. (Previously presented) The machine of claim 1, wherein said ram member is positioned approximately half of a distance between said pivot location on said arm member and said first end of said arm member.

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18. (Previously presented) The machine of claim 1, wherein said punch assembly engages said punch mating assembly with eighty tons of force and said ram member develops fifty tons of force.

19. (Cancelled)

20. (Previously Presented) The machine of claim 3 wherein the means for adjusting comprises a first plurality of apertures in a first one of said two vertical stanchions, a second plurality of apertures in a second one of said two vertical stanchions, and a pair of coupling members for positioning in said apertures for supporting said second horizontal support member on said two vertical stanchions.

21. (Previously Presented) The machine of claim 5 wherein the means for adjusting comprises a first plurality of apertures in a first one of said two vertical stanchions, a second plurality of apertures in a second one of said two vertical stanchions, and a pair of coupling members for positioning in said apertures for supporting said second horizontal support member on said two vertical stanchions.

22. (New) A metal working machine comprising:

a frame adapted for resting upon a horizontal support surface, said frame including at least two vertical stanchions and a horizontal support member extending between said vertical stanchions, said horizontal support member being positioned adjacent to a top end of said vertical stanchions;

an arm member pivotally coupled to said frame, said arm member having a first end and a second end, said arm member being pivotally coupled to said frame at a pivot location between said first and second ends;

a hydraulic cylinder having a piston selectively extendable from said hydraulic cylinder, said hydraulic cylinder being operationally coupled to said frame, said piston being operationally coupled to said arm member toward said first end in a manner such that extension of said piston from

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said hydraulic cylinder pivotally moves said first end of said arm member away from said frame and moves said second end of said arm member toward said frame;

wherein a first portion of said arm member is located between said pivot location and said first end and a second portion of said arm member is located between said pivot location and said second end;

a shear blade mounted on the first portion of said arm member for shearing materials against said horizontal support member when said piston is retracted into said hydraulic cylinder;

a punch assembly mounted on the second portion of said arm member and a punch mating assembly mounted on said frame member, said punch mating assembly being aligned with said punch assembly such that said punch assembly engages said punch mating assembly when said first end of said arm member is moved away from said frame by said piston;

a second horizontal support member mounted on and extending between said two vertical stanchions for supporting the piece of metal being worked;

a ram member mounted on the first portion of said arm member and extending downwardly from said arm member toward said second horizontal support member for transferring a force from said arm member to a workpiece positioned on said second support member;

a height adjustment structure configured to permit adjustment of a height of said second horizontal support member to adjust a distance between said second horizontal support member and said arm member.

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